

Cumulative Assessment

1. A football team gains 2 yards on the first play, loses 5 yards on the second play, loses 3 yards on the third play, and gains 4 yards on the fourth play. What is the team's overall gain or loss for all four plays?

A. a gain of 14 yards C. a loss of 2 yards
B. a gain of 2 yards D. a loss of 14 yards

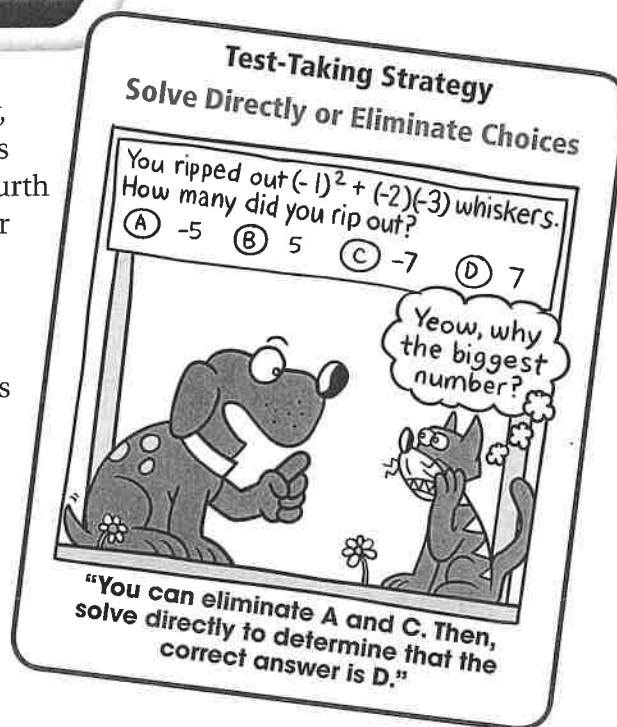
2. Which expression is *not* equal to the number 0?

F. $5 - 5$ H. $6 - (-6)$
G. $-7 + 7$ I. $-8 - (-8)$

3. What is the value of the expression below when $a = -2$, $b = 3$, and $c = -5$?

$$|a^2 - 2ac + 5b|$$

A. -9 C. 1
B. -1 D. 9



What is the value of the expression below?

$$17 - (-8)$$

Sam was evaluating an expression in the box below.

$$\begin{aligned} (-2)^3 \cdot 3 - (-5) &= 8 \cdot 3 - (-5) \\ &= 24 + 5 \\ &= 29 \end{aligned}$$

What should Sam do to correct the error that he made?

- F. Subtract 5 from 24 instead of adding.
G. Rewrite $(-2)^3$ as -8 .
H. Subtract -5 from 3 before multiplying by $(-2)^3$.
I. Multiply -2 by 3 before raising the quantity to the third power.

- 5 What is the value of the expression below when $x = 6$, $y = -4$, and $z = -2$?

$$\frac{x - 2y}{-z}$$

- A. -7 C. 1
B. -1 D. 7

B



- What is the missing number in the sequence below?

39, 24, 9, __, -21

- 6 You are playing a game using the spinner shown. You start with a score of 0 and spin the spinner four times. When you spin blue or green, you add the number to your score. When you spin red or orange, you subtract the number from your score. Which sequence of colors represents the greatest score?



- F. red, green, green, red
G. orange, orange, green, blue
H. red, blue, orange, green
I. blue, red, blue, red

- 7 Which expression represents a negative integer?

- A. $5 - (-6)$ C. $-12 \div (-6)$
B. $(-3)^3$ D. $(-2)(-4)$

- 8 Which expression has the greatest value when $x = -2$ and $y = -3$?

- F. $-xy$ H. $x - y$
G. xy I. $-x - y$

9. What is the value of the expression below?

$$-5 \cdot (-4)^2 - (-3)$$

- A. -83
- B. -77
- C. 77
- D. 83

10. Which property does the equation below represent?

$$-80 + 30 + (-30) = -80 + [30 + (-30)]$$

- F. Commutative Property of Addition
- G. Associative Property of Addition
- H. Additive Inverse Property
- I. Addition Property of Zero

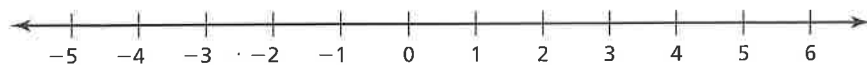
11. What is the mean of the data set in the box below?

$$-8, -6, -2, 0, -6, -8, 4, -7, -8, 1$$

- A. -8
- B. -7
- C. -6
- D. -4

C. Consider the number line shown below.

Think
Solve
Explain



Part A Use the number line to explain how to add -2 and -3 .

Part B Use the number line to explain how to subtract 5 from 2.

12. What is the value of the expression below?

$$\frac{-3 - 2^2}{-1}$$

- F. -25
- G. -1
- H. 7
- I. 25

Cumulative Assessment

- 13 When José and Sean were each 5 years old, José was $1\frac{1}{2}$ inches taller than Sean. José grew at an average rate of $2\frac{3}{4}$ inches per year from the time that he was 5 years old until the time he was 13 years old. José was 63 inches tall when he was 13 years old. How tall was Sean when he was 5 years old?

- A. $39\frac{1}{2}$ in. C. $44\frac{3}{4}$ in.
B. $42\frac{1}{2}$ in. D. $47\frac{3}{4}$ in.

- 14 Which expression represents a positive integer?

- F. -6^2 H. $(-5)^2$
G. $(-3)^3$ I. -2^3

- 15 What is the missing number in the sequence below?

$\frac{9}{16}, -\frac{9}{8}, \frac{9}{4}, -\frac{9}{2}, 9, \underline{\hspace{1cm}}$

- 16 What is the value of the expression below?

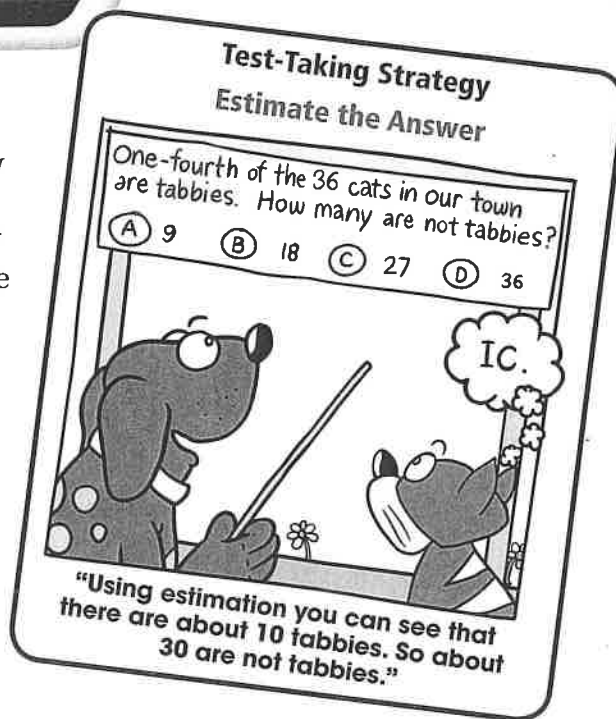
$|-2 - (-2.5)|$

- A. -4.5 C. 0.5
B. -0.5 D. 4.5

- 17 What is the distance between the two numbers on the number line?



- F. $-2\frac{1}{8}$ H. $1\frac{3}{8}$
G. $-1\frac{3}{8}$ I. $2\frac{1}{8}$



- 17 Sandra was evaluating an expression in the box below.

$$\begin{aligned}-4\frac{3}{4} \div 2\frac{1}{5} &= -\frac{19}{4} \div \frac{11}{5} \\&= \frac{-4 \cdot 5}{19 \cdot 11} \\&= \frac{-4 \cdot 5}{19 \cdot 11} \\&= \frac{-20}{209}\end{aligned}$$

What should Sandra do to correct the error that she made?

- A. Rewrite $-\frac{19}{4}$ as $-\frac{4}{19}$ and multiply by $\frac{11}{5}$.
- B. Rewrite $\frac{11}{5}$ as $\frac{5}{11}$ and multiply by $-\frac{19}{4}$.
- C. Rewrite $\frac{11}{5}$ as $-\frac{5}{11}$ and multiply by $-\frac{19}{4}$.
- D. Rewrite $-4\frac{3}{4}$ as $-\frac{13}{4}$ and multiply by $\frac{5}{11}$.
18. What is the value of the expression below when $q = -2$, $r = -12$, and $s = 8$?

$$\frac{-q^2 - r}{s}$$

F. -2

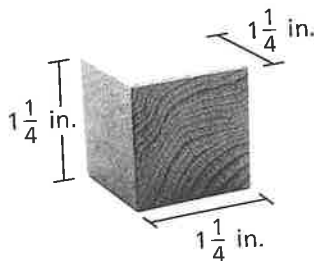
H. 1

G. -1

I. 2



E You are stacking wooden blocks with the dimensions shown below. How many blocks do you need to stack to build a block tower that is $7\frac{1}{2}$ inches tall?



- 19 What is the area of a triangle with a base length of $2\frac{1}{2}$ inches and a height of 2 inches?

A. $2\frac{1}{4}$ in.²

C. $4\frac{1}{2}$ in.²

B. $2\frac{1}{2}$ in.²

D. 5 in.²

- 20 What is the value of the expression below?

$$\frac{-4^2 - (-2)^3}{4}$$

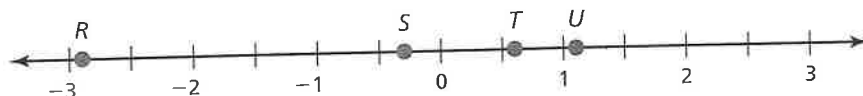
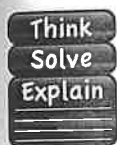
F. -6

H. 2

G. -2

I. 6

- F Four points are graphed on the number line below.



- Part A** Choose the two points whose values have the greatest sum. Approximate this sum. Explain your reasoning.
- Part B** Choose the two points whose values have the greatest difference. Approximate this difference. Explain your reasoning.
- Part C** Choose the two points whose values have the greatest product. Approximate this product. Explain your reasoning.
- Part D** Choose the two points whose values have the greatest quotient. Approximate this quotient. Explain your reasoning.

- 21 What number belongs in the box to make the equation true?

$$\boxed{} + 0.8 = -1.2$$

A. -1

C. 0.2

B. -0.2

D. 1

Cumulative Assessment

22. Which equation represents the word sentence shown below?

The quotient of a number b and 0.3 equals negative 10.

- A. $0.3b = 10$ C. $\frac{0.3}{b} = -10$
 B. $\frac{b}{0.3} = -10$ D. $\frac{b}{0.3} = 10$



23. What is the value of the expression below when $c = 0$ and $d = -6$?

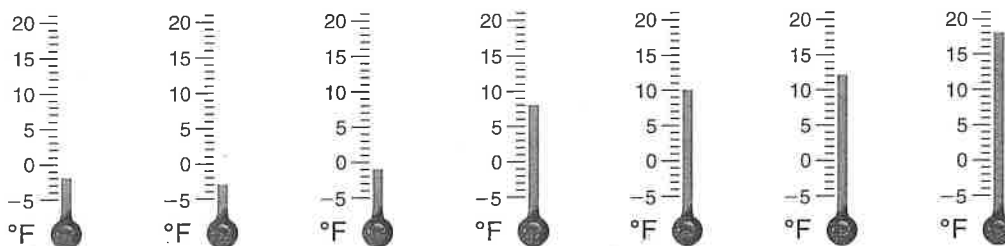
$$\frac{cd - d^2}{4}$$

23. What is the value of the expression below?

$$-38 - (-14)$$

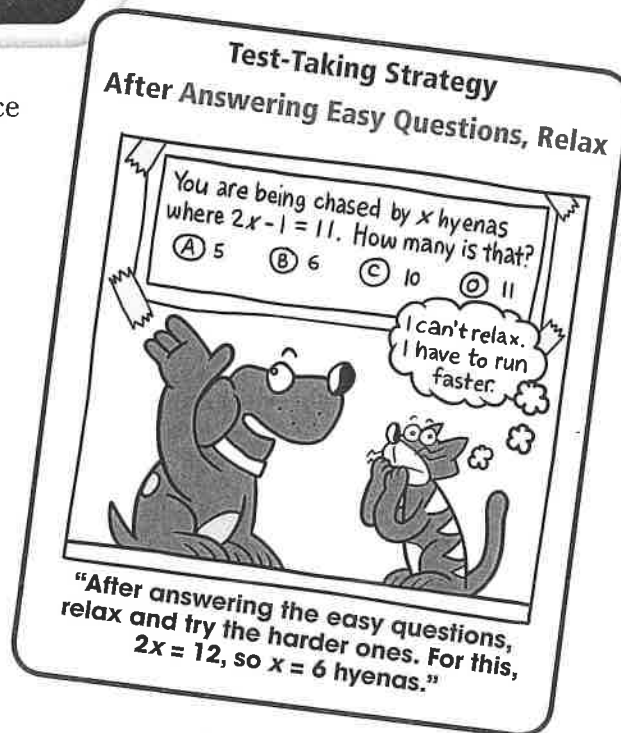
- F. -52 H. 24
 G. -24 I. 52

24. The daily low temperatures last week are shown below.



What is the mean low temperature of last week?

- A. -2°F C. 8°F
 B. 6°F D. 10°F



25. Which equation is equivalent to the equation shown below?

$$-\frac{3}{4}x + \frac{1}{8} = -\frac{3}{8}$$

F. $-\frac{3}{4}x = -\frac{3}{8} - \frac{1}{8}$

G. $-\frac{3}{4}x = -\frac{3}{8} + \frac{1}{8}$

H. $x + \frac{1}{8} = -\frac{3}{8} \cdot \left(-\frac{4}{3}\right)$

I. $x + \frac{1}{8} = -\frac{3}{8} \cdot \left(-\frac{3}{4}\right)$

H



What is the value of the expression below?

$$-0.28 \div (-0.07)$$

26. Karina was solving the equation in the box below.

$$-96 = -6(x - 15)$$

$$-96 = -6x - 90$$

$$-96 + 90 = -6x - 90 + 90$$

$$-6 = -6x$$

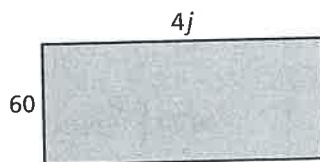
$$\frac{-6}{-6} = \frac{-6x}{-6}$$

$$1 = x$$

What should Karina do to correct the error that she made?

- A. First add 6 to both sides of the equation.
- B. First subtract x from both sides of the equation.
- C. Distribute the -6 to get $6x - 90$.
- D. Distribute the -6 to get $-6x + 90$.

27. The perimeter of the rectangle is 400 inches. What is the value of j ?
(All measurements are in inches.)



F. 35

G. 85

H. 140

I. 200

28 Jacob was evaluating the expression below when $x = -2$ and $y = 4$.

$$3 + x^2 \div y$$

His work is in the box below.

$$\begin{aligned} 3 + x^2 \div y &= 3 + (-2^2) \div 4 \\ &= 3 - 4 \div 4 \\ &= 3 - 1 \\ &= 3 \end{aligned}$$

What should Jacob do to correct the error that he made?

- A. Divide 3 by 4 before subtracting.
- B. Square -2 , then divide.
- C. Square then divide.
- D. Subtract 4 from 3 before dividing.

29 Which number is equivalent to the expression shown below?

$$-2\frac{1}{4} - \left(-8\frac{3}{8}\right)$$

F. $-10\frac{5}{8}$

H. $6\frac{1}{8}$

G. $-10\frac{1}{3}$

I. $6\frac{1}{2}$

I

Think
Solve
Explain

You want to buy the bicycle. You already have \$43.50 saved and plan to save an additional \$7.25 every week.

Part A Write and solve an equation to find the number of weeks you need to save before you can purchase the bicycle.

Part B How much sooner could you purchase the bicycle if you had a coupon for \$20 off and saved \$8.75 every week? Explain your reasoning.



Cumulative Assessment

30. What is the value of the expression below when $x = -5$, $y = 3$, and $z = -1$?

$$\frac{x^2 - 3y}{z}$$

- A. -34
B. -16
C. 16
D. 34

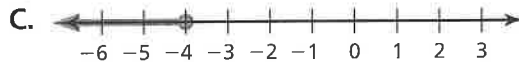
31. What is the value of the expression below?

$$-\frac{3}{8} \cdot \frac{2}{5}$$

- F. $-\frac{20}{3}$
G. $-\frac{16}{15}$
H. $-\frac{15}{16}$
I. $-\frac{3}{20}$

32. Which graph represents the inequality below?

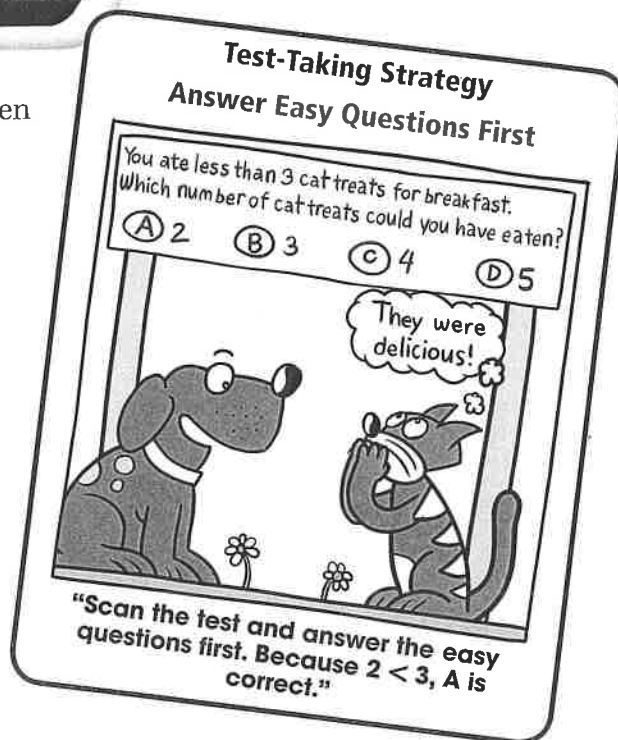
$$\frac{x}{-4} - 8 \geq -9$$



33. Which value of p makes the equation below true?

$$5(p + 6) = 25$$

- F. -1
G. $3\frac{4}{5}$
H. 11
I. 14



34. You set up the lemonade stand. Your profit is equal to your revenue from lemonade sales minus your cost to operate the stand. Your cost is \$8. How many cups of lemonade must you sell to earn a profit of \$30?



- A. 4
B. 44
C. 60
D. 76

35. Which value is a solution of the inequality below?

$$3 - 2y < 7$$

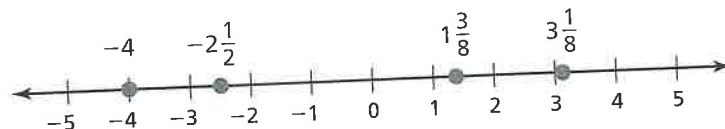
- F. -6
G. -3
H. -2
I. -1

- J. What value of y makes the equation below true?

$$12 - 3y = -6$$

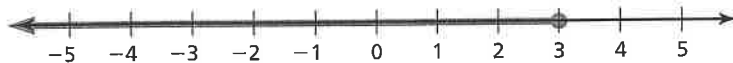


36. What is the mean distance of the four points from -3 ?



- A. $-\frac{1}{2}$
B. $2\frac{1}{2}$
C. 3
D. $7\frac{1}{8}$

37 Martin graphed the solution of the inequality $-4x + 18 > 6$ in the box below.



What should Martin do to correct the error that he made?

- F. Use an open circle at 3 and shade to the left of 3.
- G. Use an open circle at 3 and shade to the right of 3.
- H. Use a closed circle and shade to the right of 3.
- I. Use an open circle and shade to the left of -3 .

K

What is the value of the expression below?

$$\frac{5}{12} - \frac{7}{8}$$



L

You are selling T-shirts to raise money for a charity. You sell the T-shirts for \$10 each.



Part A You have already sold 2 T-shirts. How many more T-shirts must you sell to raise at least \$500? Explain.

Part B Your friend is raising money for the same charity and has not sold any T-shirts previously. He sells the T-shirts for \$8 each. What is the total number of T-shirts he must sell to raise at least \$500? Explain.

Part C Who has to sell more T-shirts in total? How many more? Explain.

38 Which expression is equivalent to the expression below?

$$-\frac{2}{3} - \left(-\frac{4}{9}\right)$$

A. $-\frac{1}{3} + \frac{1}{9}$

C. $-\frac{1}{3} - \frac{7}{9}$

B. $-\frac{2}{3} \times \left(-\frac{1}{3}\right)$

D. $\frac{3}{2} \div \left(-\frac{1}{3}\right)$

Cumulative Assessment

39. The school store sells 4 pencils for \$0.80.
What is the unit cost of a pencil?

A. \$0.20 C. \$3.20
B. \$0.80 D. \$5.00

40. Which expressions do *not* have a value of 3?

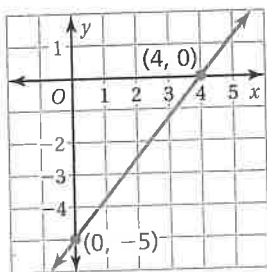
I. $2 + (-1)$ II. $2 - (-1)$
III. $-3 \times (-1)$ IV. $-3 \div (-1)$
F. I only H. II only
G. III and IV I. I, III, and IV

41. What is the value of the expression below?

$$-4 \times (-6) - (-5)$$



41. What is the slope of the line shown?



A. $\frac{4}{5}$ C. 4
B. $\frac{5}{4}$ D. 5

42. The graph below represents which inequality?



F. $-3 - 6x < -27$ H. $5 - 3x > -7$
G. $2x + 6 \geq 14$ I. $2x + 3 \leq 11$

Test-Taking Strategy Read Question Before Answering

What is *NOT* the ratio of human years to dog years?

(A) $\frac{1}{7}$ (B) 1:7 (C) 1 to 7 (D) 7



"Be sure to read the question before choosing your answer. You may find a word that changes the meaning."

- 43 The quantities x and y are proportional. What is the missing value in the table?

x	y
$\frac{2}{3}$	6
$\frac{4}{3}$	12
$\frac{8}{3}$	24
5	

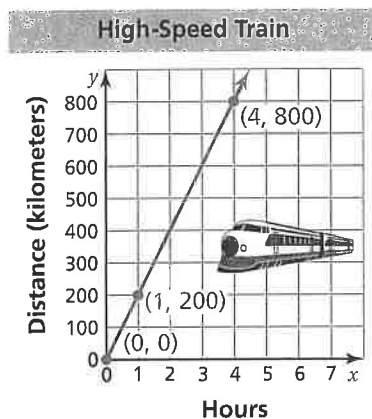
- A. 30
B. 36
C. 45
D. 48

- 44 You are selling tomatoes. You have already earned \$16 today. How many additional pounds of tomatoes do you need to sell to earn a total of \$60?

- F. 4
G. 11
H. 15
I. 19



- 45 The distance traveled by the a high-speed train is proportional to the number of hours traveled. Which of the following is *not* a valid interpretation of the graph below?



- A. The train travels 0 kilometers in 0 hours.
B. The unit rate is 200 kilometers per hour.
C. After 4 hours, the train is traveling 800 kilometers per hour.
D. The train travels 800 kilometers in 4 hours.

- 216 Regina was evaluating the expression below. What should Regina do to correct the error she made?

$$\begin{aligned} -\frac{3}{2} \div \left(-\frac{8}{7}\right) &= -\frac{2}{3} \times \left(-\frac{7}{8}\right) \\ &= \frac{2 \times 7}{3 \times 8} \\ &= \frac{14}{24} \\ &= \frac{7}{12} \end{aligned}$$

- F. Rewrite $-\frac{3}{2} \div \left(-\frac{8}{7}\right)$ as $-\frac{2}{3} \times \left(-\frac{8}{7}\right)$.
- G. Rewrite $-\frac{3}{2} \div \left(-\frac{8}{7}\right)$ as $-\frac{3}{2} \times \left(-\frac{7}{8}\right)$.
- H. Rewrite $-\frac{3}{2} \div \left(-\frac{8}{7}\right)$ as $-\frac{3}{7} \times \left(-\frac{8}{2}\right)$.
- I. Rewrite $-\frac{2}{3} \times \left(-\frac{7}{8}\right)$ as $-\frac{2 \times 7}{3 \times 8}$.

- N What is the least value of t for which the inequality is true?

$$3 - 6t \leq -15$$



- O You can mow 800 square feet of lawn in 15 minutes. At this rate, how many minutes will you take to mow a lawn that measures 6000 square feet?



Part A Write a proportion to represent the problem. Use m to represent the number of minutes. Explain your reasoning.

Part B Solve the proportion you wrote in Part A. Then use it to answer the problem. Show your work.

- 217 What value of p makes the equation below true?

$$6 - 2p = -48$$

- A. -27
B. -21
C. 21
D. 27

Cumulative Assessment

47. A movie theater offers 30% off the price of a movie ticket to students from your school. The regular price of a movie ticket is \$8.50. What is the discounted price that you would pay for a ticket?

A. \$2.55 C. \$5.95
B. \$5.50 D. \$8.20

48. You are comparing the prices of four boxes of cereal. Two of the boxes contain free extra cereal.

- Box F costs \$3.59 and contains 16 ounces.
- Box G costs \$3.79 and contains 16 ounces, plus an additional 10% for free.
- Box H costs \$4.00 and contains 500 grams.
- Box I costs \$4.69 and contains 500 grams, plus an additional 20% for free.

Which box has the least unit cost? (1 ounce = 28.35 grams)

F. Box F H. Box H
G. Box G I. Box I

What value makes the equation $11 - 3x = -7$ true?



50. Which proportion represents the problem below?

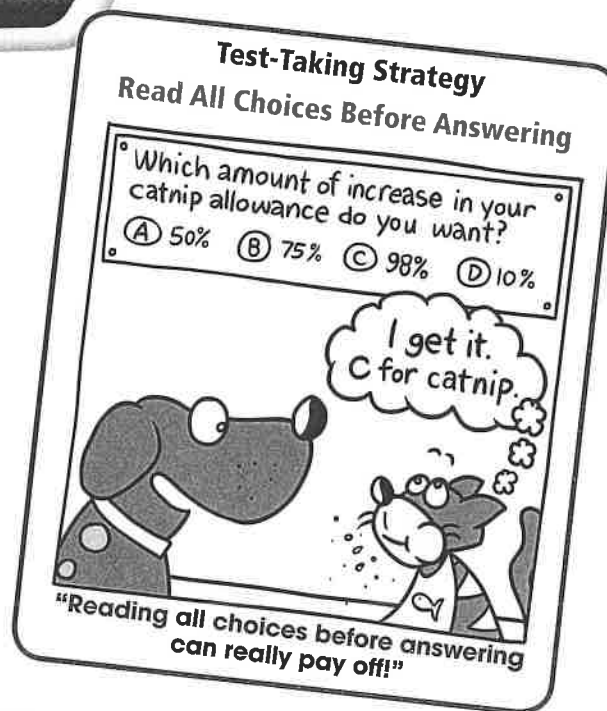
"17% of a number is 43. What is the number?"

A. $\frac{17}{43} = \frac{n}{100}$

B. $\frac{n}{17} = \frac{43}{100}$

C. $\frac{n}{43} = \frac{17}{100}$

D. $\frac{43}{n} = \frac{17}{100}$



51. Which list of numbers is in order from least to greatest?

F. $0.8, \frac{5}{8}, 70\%, 0.09$

H. $\frac{5}{8}, 70\%, 0.8, 0.09$

G. $0.09, \frac{5}{8}, 0.8, 70\%$

I. $0.09, \frac{5}{8}, 70\%, 0.8$

Q.



What is the value of $\frac{9}{8} \div \left(-\frac{11}{4}\right)$?

52. A pair of running shoes is on sale for 25% off the original price.



Which price is closest to the sale price of the running shoes?

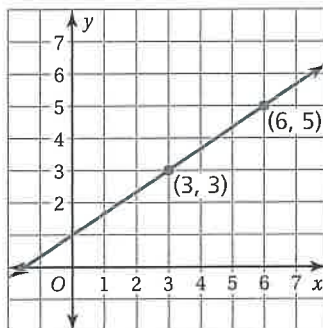
A. \$93

C. \$124

B. \$99

D. \$149

53. What is the slope of the line?



F. $\frac{2}{3}$

H. 2

G. $\frac{3}{2}$

I. 3

54 Brad solved the equation in the box shown.

What should Brad do to correct the error that he made?

$$-3(2 + w) = -45$$

$$2 + w = -15$$

$$w = -17$$

- A. Multiply -45 by -3 to get $2 + w = 135$.
- B. Add 3 to -45 to get $2 + w = -42$.
- C. Add 2 to -15 to get $w = -13$.
- D. Divide -45 by -3 to get 15 .

R.

Think
Solve
Explain

You are comparing the costs of a certain model of ladder at a hardware store and at an online store.

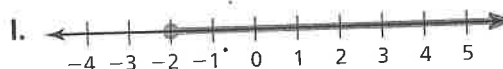
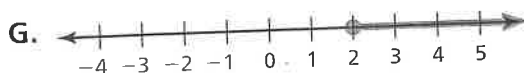
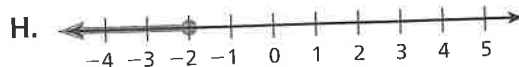
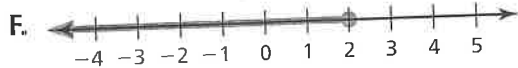


Part A What is the cost of the ladder at each of the stores? Show your work and explain your reasoning.

Part B Suppose that the hardware store is offering 10% off the price of the ladder and that the online store is offering free shipping and handling. Which store offers the better final cost? by how much? Show your work and explain your reasoning.

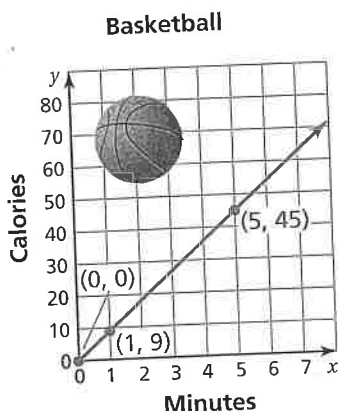
55 Which graph represents the inequality below?

$$-5 - 3x \geq -11$$



Cumulative Assessment

5. The number of calories you burn by playing basketball is proportional to the number of minutes you play. Which of the following is a valid interpretation of the graph below?



- A. The unit rate is $\frac{1}{9}$ calorie per minute.
- B. You burn 5 calories by playing basketball for 45 minutes.
- C. You do not burn any calories if you do not play basketball for at least 1 minute.
- D. You burn an additional 9 calories for each minute of basketball you play.



6. A lighting store is holding a clearance sale. The store is offering discounts on all the lamps it sells. As the sale progresses, the store will increase the percent of discount it is offering.

You want to buy a lamp that has an original price of \$40. You will buy the lamp when its price is marked down to \$10. What percent discount will you have received?

7. What is the value of the expression below?

$$2 - 6 - (-9)$$

F. -13

G. -5

H. 5

I. 13

Test-Taking Strategy

Solve Problem Before Looking at Choices

Your paw has an area of 2 in^2 . A hyena's paw is twice as long. What is its area?

- (A) 4 in^2 (B) 6 in^2 (C) 8 in^2 (D) 10 in^2



"Solve the problem before looking at the choices. You know area increases as the square of the scale. So, it's 8 in^2 ."

T



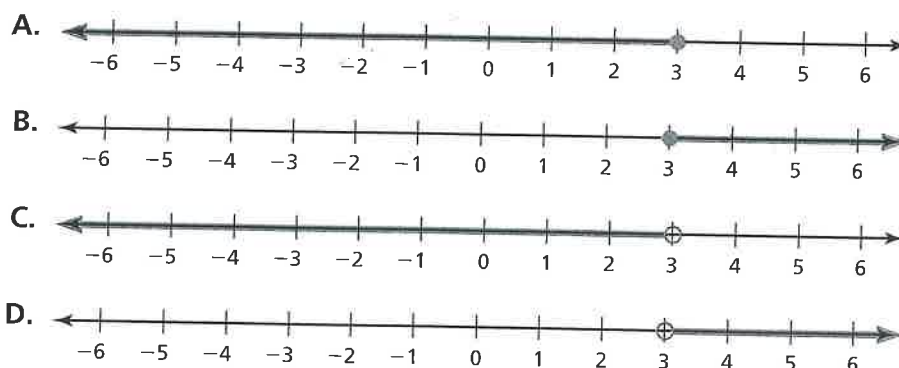
What is the solution to the proportion below?

$$\frac{8}{12} = \frac{x}{18}$$

S8

Which graph represents the inequality below?

$$-5 - 6x \leq -23$$



S9

You are building a scale model of a park that is planned for a city. The model uses the scale below.

$$1 \text{ centimeter} = 2 \text{ meters}$$

The park will have a rectangular reflecting pool with a length of 20 meters and a width of 12 meters. In your scale model, what will be the area of the reflecting pool?

F. 60 cm^2

H. 480 cm^2

G. 120 cm^2

I. 960 cm^2

60

The quantities x and y are proportional. What is the missing value in the table?

x	y
$\frac{5}{7}$	10
$\frac{9}{7}$	18
$\frac{15}{7}$	30
4	

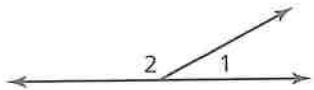
A. 38

C. 46

B. 42

D. 56

61



- G.** 118°

62.

$$\frac{c}{5} - (-15) = -35$$

$$\frac{c}{5} + 15 = -35$$

$$\frac{c}{5} + 15 - 15 = -35 - 15$$

$$\frac{c}{5} = -50$$

$$\frac{c}{5} = \frac{-50}{5}$$

$$c = -10$$

What should Brett do to correct the error that he made?

- A.** Subtract 15 from -35 to get -20 .

B. Rewrite $\frac{c}{5} - (-15)$ as $\frac{c}{5} - 15$.

C. Multiply each side of the equation by 5 to get $c = -250$.

D. Multiply each side of the equation by -5 to get $c = 250$.

A map of the state where Donna lives has the scale shown below.

Think
Solve
Explain

$$\frac{1}{2} \text{ inch} = 10 \text{ miles}$$

Part A Donna measured the distance between her town and the state capital on the map. Her measurement was $4\frac{1}{2}$ inches. Based on Donna's measurement, what is the actual distance, in miles, between her town and the state capital? Show your work and explain your reasoning.

Part B Donna wants to mark her favorite campsite on the map. She knows that the campsite is 65 miles north of her town. What distance on the map, in inches, represents an actual distance of 65 miles? Show your work and explain your reasoning.

Cumulative Assessment

63. To make 6 servings of soup, you need 5 cups of chicken broth. You want to know how many servings you can make with 2 quarts of chicken broth. Which proportion should you use?

A. $\frac{6}{5} = \frac{2}{x}$

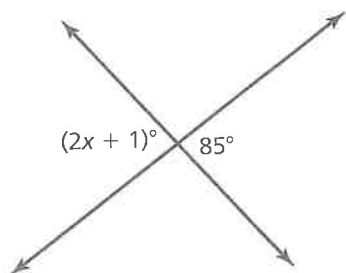
C. $\frac{6}{5} = \frac{x}{8}$

B. $\frac{6}{5} = \frac{x}{2}$

D. $\frac{5}{6} = \frac{x}{8}$



What is the value of x ?



64. Your mathematics teacher described an equation in words. Her description is in the box below.

"5 less than the product of 7 and an unknown number is equal to 42."

Which equation matches your mathematics teacher's description?

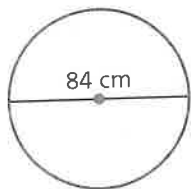
F. $(5 - 7)n = 42$

H. $5 - 7n = 42$

G. $(7 - 5)n = 42$

I. $7n - 5 = 42$

65. What is the area of the circle below? (Use $\frac{22}{7}$ for π .)



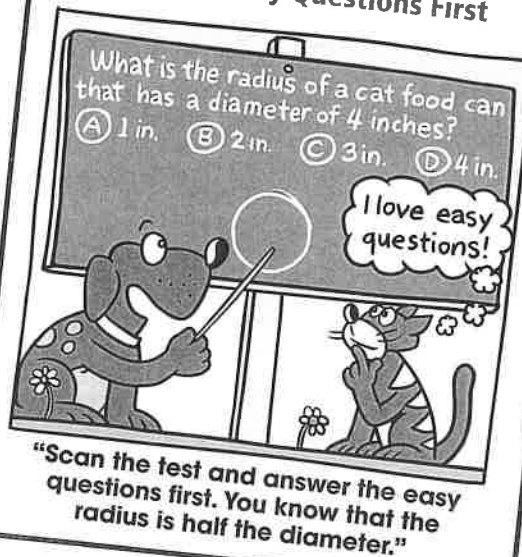
A. 132 cm^2

C. 5544 cm^2

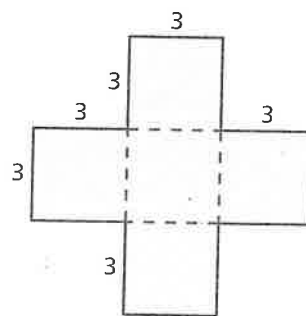
B. 264 cm^2

D. $22,176 \text{ cm}^2$

Test-Taking Strategy Answer Easy Questions First



John was finding the area of the figure below.



John's work is in the box below.

area of horizontal rectangle

$$A = 3 \times (3 + 3 + 3)$$

$$= 3 \times 9$$

$$= 27 \text{ square units}$$

area of vertical rectangle

$$A = (3 + 3 + 3) \times 3$$

$$= 9 \times 3$$

$$= 27 \text{ square units}$$

total area of figure

$$A = 27 + 27$$

$$= 54 \text{ square units}$$

What should John do to correct the error that he made?

- F. Add the area of the center square to the 54 square units.
- G. Find the area of one square and multiply this number by 4.
- H. Subtract the area of the center square from the 54 square units.
- I. Subtract 54 from the area of a large square that is 9 units on each side.

Which value of x makes the equation below true?

$$5x - 3 = 11$$

A. 1.6

C. 40

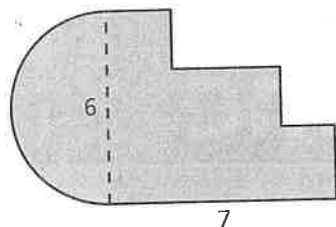
B. 2.8

D. 70

W



What is the perimeter of the figure below? (Use 3.14 for π .)



Which inequality has 5 in its solution set?

F. $5 - 2x \geq 3$

H. $8 - 3x > -7$

G. $3x - 4 \geq 8$

I. $4 - 2x < -6$

46. Four jewelry stores are selling an identical pair of earrings.

- Store A: original price of \$75; 20% off during sale
- Store B: original price of \$100; 35% off during sale
- Store C: original price of \$70; 10% off during sale
- Store D: original price of \$95; 30% off during sale

Which store has the least sale price for the pair of earrings?

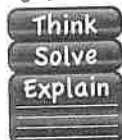
A. Store A

C. Store C

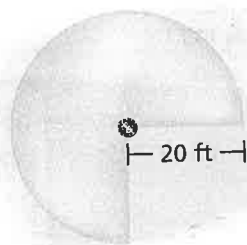
B. Store B

D. Store D

X



A lawn sprinkler sprays water onto part of a circular region, as shown below.

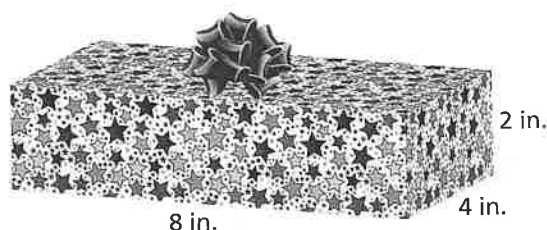


Part A What is the area, in square feet, of the region that the sprinkler sprays with water? Show your work and explain your reasoning. (Use 3.14 for π .)

Part B What is the perimeter, in feet, of the region that the sprinkler sprays with water? Show your work and explain your reasoning. (Use 3.14 for π .)

Cumulative Assessment

1. A gift box and its dimensions are shown below.



What is the least amount of wrapping paper that you could have used to wrap the box?

- A. 20 in.² C. 64 in.²
B. 56 in.² D. 112 in.²

10. A student scored 600 the first time she took the mathematics portion of her college entrance exam. The next time she took the exam, she scored 660. Her second score represents what percent increase over her first score?

- F. 9.1% H. 39.6%
G. 10% I. 60%

11. Raj was solving the proportion in the box below.

$$\frac{3}{8} = \frac{x-3}{24}$$

$$3 \cdot 24 = (x-3) \cdot 8$$

$$72 = x - 24$$

$$96 = x$$

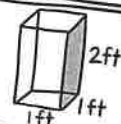
What should Raj do to correct the error that he made?

- A. Set the product of the numerators equal to the product of the denominators.
B. Distribute 8 to get $8x - 24$.
C. Add 3 to each side to get $\frac{3}{8} + 3 = \frac{x}{24}$.
D. Divide both sides by 24 to get $\frac{3}{8} \div 24 = x - 3$.

Test-Taking Strategy After Answering Easy Questions, Relax

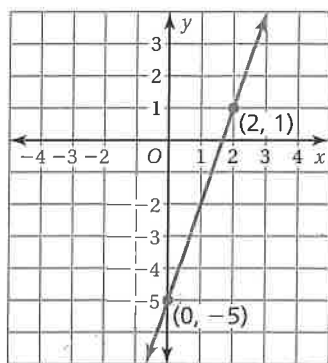
Find the surface area.

- (A) 10 ft (C) 10 ft²
(B) 10 ft³ (D) 2 ft³



"After answering the easy questions, relax and try the harder ones. For this, you know area is measured in square units."

- 72 A line contains the two points plotted in the coordinate plane below.



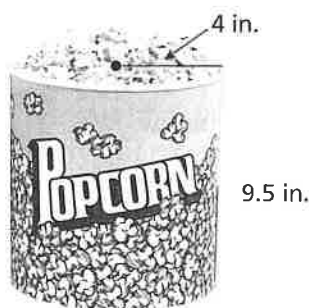
What is the slope of the line?

- F. $\frac{1}{3}$ H. 3
G. 2 I. 6



James is getting ready for wrestling season. As part of his preparation, he plans to lose 5% of his body weight. James currently weighs 160 pounds. How much will he weigh, in pounds, after he loses 5% of his weight?

- 73 How much material is needed to make the popcorn container?



- A. $76\pi \text{ in.}^2$ C. $92\pi \text{ in.}^2$
B. $84\pi \text{ in.}^2$ D. $108\pi \text{ in.}^2$

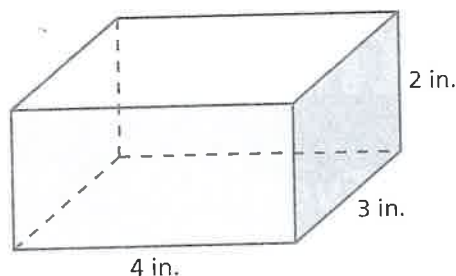
- 74 To make 10 servings of soup you need 4 cups of broth. You want to know how many servings you can make with 8 pints of broth. Which proportion should you use?

- F. $\frac{10}{4} = \frac{x}{8}$ H. $\frac{10}{4} = \frac{8}{x}$
G. $\frac{4}{10} = \frac{x}{16}$ I. $\frac{10}{4} = \frac{x}{16}$

7



A rectangular prism and its dimensions are shown below.



70

What is the volume, in cubic inches, of a rectangular prism whose dimensions are three times greater?

75

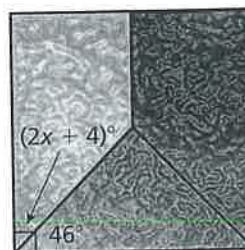
What is the value of x ?

A. 20

B. 43

C. 44

D. 65



70

Which of the following could be the angle measures of a triangle?

F. $60^\circ, 50^\circ, 20^\circ$

H. $30^\circ, 60^\circ, 90^\circ$

G. $40^\circ, 80^\circ, 90^\circ$

I. $0^\circ, 90^\circ, 90^\circ$

AA.

The table below shows the costs of buying matinee movie tickets.

Think
Solve
Explain

Matinee Tickets, x	2	3	4	5
Cost, y	\$9	\$13.50	\$18	\$22.50

Part A Graph the data.

Part B Find and interpret the slope of the line through the points.

Part C How much does it cost to buy 8 matinee movie tickets?

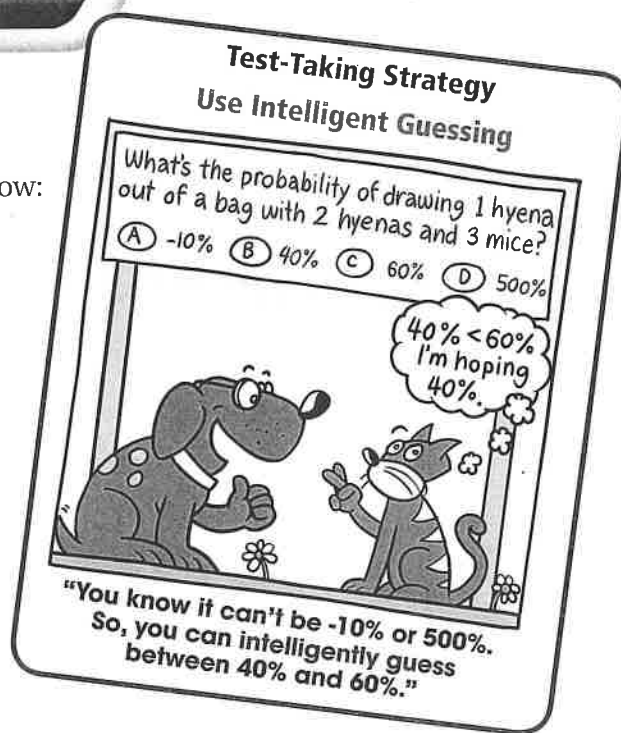
10 Cumulative Assessment

7. A school athletic director asked each athletic team member to name his or her favorite professional sports team. The results are below:

- D.C. United: 3
- Florida Panthers: 8
- Jacksonville Jaguars: 26
- Jacksonville Sharks: 7
- Miami Dolphins: 22
- Miami Heat: 15
- Miami Marlins: 20
- Minnesota Lynx: 4
- New York Knicks: 5
- Orlando Magic: 18
- Tampa Bay Buccaneers: 17
- Tampa Bay Lightning: 12
- Tampa Bay Rays: 28
- Other: 6

One athletic team member is picked at random. What is the likelihood that this team member's favorite professional sports team is *not* located in Florida?

- | | |
|----------------------------|---------------------------------|
| A. certain | C. unlikely, but not impossible |
| B. likely, but not certain | D. impossible |

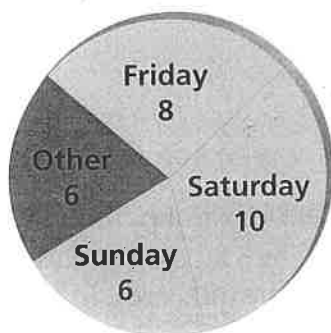


BB.



Each student in your class voted for his or her favorite day of the week. Their votes are shown below:

Favorite Day of the Week



A student from your class is picked at random. What is the probability that this student's favorite day of the week is Sunday?

- 76 How far, in millimeters, will the tip of the hour hand of the clock travel in 2 hours? (Use $\frac{22}{7}$ for π .)



- F. 44 mm
G. 88 mm
H. 264 mm
I. 528 mm

- 79 Nathaniel solved the proportion in the box below.

$$\begin{aligned}\frac{16}{40} &= \frac{p}{27} \\ 16 \cdot p &= 40 \cdot 27 \\ 16p &= 1080 \\ \frac{16p}{16} &= \frac{1080}{16} \\ p &= 67.5\end{aligned}$$

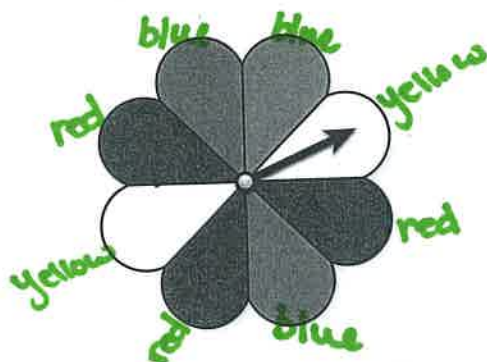
What should Nathaniel do to correct the error that he made?

- A. Add 40 to 16 and 27 to p .
B. Subtract 16 from 40 and 27 from p .
C. Multiply 16 by 27 and p by 40.
D. Divide 16 by 27 and p by 40.
- 80 A North American hockey rink contains 5 face-off circles. Each of these circles has a radius of 15 feet. What is the total area, in square feet, of all the face-off circles? (Use 3.14 for π .)
- F. 706.5 ft²
G. 2826 ft²
H. 3532.5 ft²
I. 14,130 ft²

CC

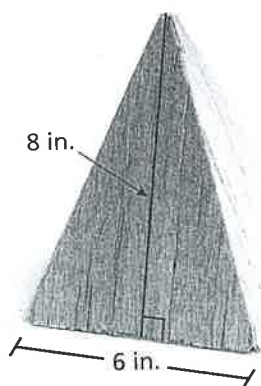


A spinner is divided into eight congruent sections, as shown below.



You spin the spinner twice. What is the probability that the arrow will stop in a yellow section both times?

81 What is the surface area, in square inches, of the square pyramid?



A. 24 in.^2

C. 132 in.^2

B. 96 in.^2

D. 228 in.^2

82. The value of one of Kevin's baseball cards was \$6.00 when he first got it. The value of this card is now \$15.00. What is the percent increase in the value of the card?

F. 40%

H. 150%

G. 90%

I. 250%

DD

Think
Solve
Explain

You roll a number cube twice. You want to roll two even numbers.

Part A Determine whether the events are independent or dependent.

Part B Find the number of favorable outcomes and the number of possible outcomes of each roll.

Part C Find the probability of rolling two even numbers. Explain your reasoning.

